



**Actuarial Valuation Report  
for the  
1959 Survivor Benefit Program  
as of June 30, 2010**

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### **Actuarial Certification**

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the 1959 Survivor Program for Public Agency 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and Indexed Level, and the State and Schools 5<sup>th</sup> Level Pools. This valuation is based on the beneficiary and membership data provided to the Actuarial Office, the statement of assets provided by the CalPERS Fiscal Services Division, and the benefits provided under this program. It is our opinion that this valuation has been performed by qualified actuaries in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this program.



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## Purpose of the Report

This actuarial valuation of the 1959 Survivor Program for Public Agency 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and Indexed level and the State and Schools 5<sup>th</sup> level pools within the California Public Employees' Retirement System (CalPERS) was performed by CalPERS' staff actuaries as of June 30, 2010 in order to

- set forth the actuarial value of assets and liabilities of this program as of June 30, 2010;
- establish the actuarially required employer premiums for these pools within the program for the fiscal year July 1, 2011 through June 30, 2012; and
- provide actuarial information as of June 30, 2010 to the CalPERS Board of Administration and other interested parties.

Use of this report for other purposes may be inappropriate.

## Funded Status of the Plan

Shown below are the Accrued Liability, Market Value of Assets, and Funded Ratio of all pools within the 1959 Survivor Benefit Program.

<u>Plan</u>	<u>Accrued Liability</u> <sup>1</sup>	<u>Market Value of Assets (MVA)</u>	<u>Funded Ratio based on MVA</u>
State 5 <sup>th</sup> Level Pool	\$ 133,976,361	\$ 88,997,200	66.4%
Schools 5 <sup>th</sup> Level Pool	\$ 11,456,594	\$ 48,119,951	420.0%
PA 1 <sup>st</sup> Level Pool	\$ 2,227,779	\$ 27,145,916	1218.5%
PA 2 <sup>nd</sup> Level Pool	\$ 2,084,000	\$ 7,007,527	336.3%
PA 3 <sup>rd</sup> Level Pool	\$ 24,263,435	\$ 71,301,395	293.9%
PA 4 <sup>th</sup> Level Pool	\$ 110,178,839	\$ 114,518,783	103.9%
PA Indexed Level Pool	\$ 16,215,254	\$ 15,889,970	98.0%

1 – By definition, under the Term Insurance Method, the present value of future benefits and the accrued liability are equal. Under the Entry Age Normal Method, which is currently being used to fund the benefit in the Indexed Pool, the accrued liability is defined as the difference between the present value of future benefits and the present value of future normal costs.

## Required Employer and Employee Monthly Premiums

The actuarially required employer and employee monthly premiums per covered member per month for the 1959 Survivor Program for the fiscal year July 1, 2011 through June 30, 2012 are shown below. The results for fiscal year July 1, 2010 through June 30, 2011 are shown for comparison. Except for the Public Agency Indexed Level pool, these monthly premiums are determined using a Modified Term Insurance funding method. Monthly premiums for the Public Agency Indexed Level pool are determined using the Entry Age Normal funding method.

<b>Required Monthly Premiums</b>						
	2010-2011 Premium			2011-2012 Premium		
<u>Plan</u>	<u>Employer</u>	<u>Employee</u>	<u>Total</u>	<u>Employer</u>	<u>Employee</u>	<u>Total</u>
State 5 <sup>th</sup> Level Pool*	\$5.45	\$5.45	\$10.90	\$5.45	\$5.45	\$10.90
Schools 5 <sup>th</sup> Level Pool*	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 1 <sup>st</sup> Level Pool**	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 2 <sup>nd</sup> Level Pool**	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 3 <sup>rd</sup> Level Pool**	\$0.00	\$2.00	\$2.00	\$0.00	\$2.00	\$2.00
PA 4 <sup>th</sup> Level Pool**	\$3.90	\$2.00	\$5.90	\$3.90	\$2.00	\$5.90
PA Indexed Level Pool*	\$2.90	\$2.90	\$5.80	\$3.20	\$3.20	\$6.40

\* Section 21581 of the California Public Employees' Retirement Law requires mandatory cost sharing when the total premium exceeds \$4.00. Mandatory \$2.00 member monthly premium required.

\*\* Mandatory \$2.00 member monthly premium required.

The required employee premium for the State 5<sup>th</sup> level pool will remain the same at \$5.45 per member, per month (or \$2.52 for biweekly paid members) for fiscal year 2011/2012. This is in accordance with Government Code Section 21581(c) which specifies that when the total required premium (after amortization of surplus/unfunded liability) exceeds \$4, the employer and the member shall evenly share the required monthly premium.

The required employee premium for the Indexed level pool will change from \$2.90 to \$3.20 per member, per month (or from \$1.34 to \$1.48 for biweekly paid members) for fiscal year 2011/2012. This is in accordance with Government Code Section 21581(b) which specifies that when the total required premium (after amortization of surplus/unfunded liability) exceeds \$4, the employer and the member shall evenly share the required monthly premium.

Employee required premiums for all of the other pools shall remain the same, \$2.00, as in the prior year.

## **Changes Since Prior Valuation**

**Actuarial Assumptions** - There was no change in actuarial assumptions since the June 30, 2009 valuation.

**Actuarial Method** - There was no change in actuarial methods since the June 30, 2009 valuation.

**Benefits** - There was no change in the existing benefit levels in the program since the June 30, 2009 valuation.

### Comparison of Current and Prior Results

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

#### State 5th Level Pool

	<u>June 30, 2009</u>	<u>June 30, 2010</u>
Covered Active Members	82,434	79,587
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	263	267
Receiving Benefits	<u>1,401</u>	<u>1,420</u>
Total	1,664	1,687
Present Value of Benefits	\$ 132,865,010	\$ 133,976,361
Assets		
Actuarial Value	\$ 99,916,930	\$ 100,321,586
Market Value	\$ 83,264,108	\$ 88,997,200
(Unfunded Liability)/Excess Assets	\$ (32,948,080)	\$ (33,654,775)
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	\$7.80	\$7.70
After Amortization of (Unfunded Liability)/Excess Assets	\$10.90	\$10.90
After employer/employee premium sharing	\$5.45	\$5.45
Funded Ratio based on MVA	62.7%	66.4%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

#### Schools 5th Level Pool

	<u>June 30, 2009</u>	<u>June 30, 2010</u>
Covered Active Members	10,562	10,203
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	18	17
Receiving Benefits	<u>135</u>	<u>132</u>
Total	153	149
Present Value of Benefits	\$ 11,739,404	\$ 11,456,594
Assets		
Actuarial Value	\$ 51,566,134	\$ 53,899,005
Market Value	\$ 42,971,778	\$ 48,119,951
(Unfunded Liability)/Excess Assets	\$ 39,826,730	\$ 42,442,411
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	\$5.00	\$5.10
After Amortization of (Unfunded Liability)/Excess Assets	\$0.00	\$0.00
After employer/employee premium sharing	\$0.00	\$0.00
Funded Ratio based on MVA	366.0%	420.0%

### Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

**Public Agency 1st Level Pool**

	<u><b>June 30, 2009</b></u>	<u><b>June 30, 2010</b></u>
Covered Active Members	8,363	8,121
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	41	44
Receiving Benefits	<u>83</u>	<u>83</u>
Total	124	127
Present Value of Benefits	\$ 2,211,657	\$ 2,227,779
Assets		
Actuarial Value	\$ 28,350,904	\$ 30,302,636
Market Value	\$ 23,625,753	\$ 27,145,916
(Unfunded Liability)/Excess Assets	\$ 26,139,247	\$ 28,074,857
Required Employer Monthly Premium Per Member		
Total premium required	\$ 1.40	\$ 1.40
Premium required after Employee Contributions	\$ 0.00	\$ 0.00
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	\$ 0.00	\$ 0.00
Funded Ratio based on MVA	1,068.2%	1,218.5%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

**Public Agency 2nd Level Pool**

	<u><b>June 30, 2009</b></u>	<u><b>June 30, 2010</b></u>
Covered Active Members	4,392	4,197
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	27	27
Receiving Benefits	<u>62</u>	<u>66</u>
Total	89	93
Present Value of Benefits	\$ 1,983,718	\$ 2,084,000
Assets		
Actuarial Value	\$ 7,441,346	\$ 7,839,589
Market Value	\$ 6,201,122	\$ 7,007,527
(Unfunded Liability)/Excess Assets	\$ 5,457,628	\$ 5,755,589
Required Employer Monthly Premium Per Member		
Total premium required	\$ 1.70	\$ 1.80
Premium required after Employee Contributions	\$ 0.00	\$ 0.00
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	\$ 0.00	\$ 0.00
Funded Ratio based on MVA	312.6%	336.3%

**Comparison of Current and Prior Results (continued)**



Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

**Public Agency 3rd Level Pool**

	<u><b>June 30, 2009</b></u>	<u><b>June 30, 2010</b></u>
Covered Active Members	44,572	42,930
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	204	191
Receiving Benefits	<u>456</u>	<u>473</u>
Total	660	664
Present Value of Benefits	\$ 24,213,399	\$ 24,263,435
Assets		
Actuarial Value	\$ 76,647,200	\$ 79,897,971
Market Value	\$ 63,872,667	\$ 71,301,395
(Unfunded Liability)/Excess Assets	\$ 52,433,801	\$ 55,634,536
Required Employer Monthly Premium Per Member		
Total premium required	\$ 2.70	\$ 2.70
Premium required after Employee Contributions	\$ 0.70	\$ 0.70
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	\$ 0.00	\$ 0.00
Funded Ratio based on MVA	263.8%	293.9%

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

**Public Agency 4th Level Pool**

	<u><b>June 30, 2009</b></u>	<u><b>June 30, 2010</b></u>
Covered Active Members	75,153	72,679
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	246	260
Receiving Benefits	<u>793</u>	<u>818</u>
Total	1,039	1,078
Present Value of Benefits	\$ 106,819,952	\$ 110,178,839
Assets		
Actuarial Value	\$ 128,436,755	\$ 129,072,008
Market Value	\$ 107,030,629	\$ 114,518,783
(Unfunded Liability)/Excess Assets	\$ 21,616,803	\$ 18,893,169
Required Employer Monthly Premium Per Member		
Total premium required	\$ 7.40	\$ 7.40
Premium required after Employee Contributions	\$ 5.40	\$ 5.40
Employer premium after Amortization of (Unfunded Liability)/Excess Assets	\$ 3.90	\$ 3.90
Funded Ratio based on MVA	100.2%	103.9%

**Comparison of Current and Prior Results (continued)**

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

**Public Agency Indexed Level Pool**

	<b><u>June 30, 2009</u></b>	<b><u>June 30, 2010</u></b>
Covered Active Members	10,707	10,543
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	29	28
Receiving Benefits	<u>86</u>	<u>96</u>
Total	115	124
Entry Age Normal Accrued Liability	\$ 14,606,811	\$ 16,215,254
Assets		
Actuarial Value	\$ 17,315,166	\$ 17,838,492
Market Value	\$ 14,429,305	\$ 15,889,970
(Unfunded Liability)/Excess Assets	\$ 2,708,355	\$ 1,623,238
Required Employer Monthly Premium Per Member		
Before Amortization of (Unfunded Liability)/Excess Assets	\$ 7.00	\$ 7.10
After Amortization of (Unfunded Liability)/Excess Assets	\$ 5.80	\$ 6.40
After employer/employee premium sharing	\$ 2.90	\$ 3.20
Funded Ratio based on MVA	98.8%	98.0%

The following table develops the annual premiums required for 2011-2012 for the State 5<sup>th</sup> and Schools 5<sup>th</sup> Level Pools.

**Development of Funding Requirements  
for State 5th and Schools 5th Level Pools  
June 30, 2010 Annual Valuation of 1959 Survivor Program**

	<u>State 5th Level</u>	<u>School 5th Level</u>
<b>1) Development of Unfunded Liability</b>		
a. Present Value of Future Survivor Benefits	\$133,976,361	\$11,456,594
b. Actuarial Value of Assets	<u>\$100,321,586</u>	<u>\$53,899,005</u>
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	\$33,654,775	(\$42,442,411)
<b>2) Development of Normal Cost</b>		
a. Present Value of Benefits for 2006-2009 Deaths	\$28,432,145	\$2,617,842
b. Number of 2006-2009 Member Months	3,749,364	488,544
c. Total per member, per month 2010/2011 Term Insurance Normal Cost	\$7.80	\$5.00
d. Total per member, per month 2011/2012 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest \$0.10	\$7.70	\$5.10
<b>3) 2011 Projected Unfunded Liability</b>		
a. 2010 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2011 [1(c)*1.0775]	\$36,263,020	(\$45,731,698)
b. Projected Normal Cost Accrual 2010-2011 with interest	\$7,923,761	\$672,816
c. Projected Employer Contributions 2010-2011 with interest	\$5,402,920	\$0
d. Projected Employee Contributions 2010-2011 with interest	<u>\$5,402,920</u>	<u>\$254,184</u>
e. Total Projected UAL/(Excess Assets) as of June 30, 2011 [3(a)+3(b)-3(c)-3(d)]	\$33,380,942	(\$45,313,065)
<b>4) 2011/2012 Required Contribution</b>		
a. Required Normal Cost per member, per month [2(d)]	\$7.70	\$5.10
b. Projected Active Members as of 6/30/2011	79,587	10,203
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775 <sup>1/2</sup> ]	\$7,633,483	\$648,169
d. Amortization of the UAL/(Excess Assets)	\$2,789,413	(\$648,169)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)/12)], rounded to nearest \$0.10	\$10.90	\$0.00
f. Amortization Period	30-year	N/A
<b>5) 2011/2012 Required Employer and Employee Premiums With Cost Sharing Provision</b>		
a. Required Employee Premium per member, per month [maximum(\$2,4(e)/2)]	\$5.45	\$2.00
b. Required Employer Premium per member, per month [maximum(\$0,4(e)-5(a))]	\$5.45	\$0.00

The following table develops the annual premiums required for 2011-2012 for the Public Agency 1<sup>st</sup> and 2<sup>nd</sup> Level Pools.

**Development of Funding Requirements  
for Public Agency 1st and 2nd Level Pools  
June 30, 2010 Annual Valuation of 1959 Survivor Program**

	<u>Public Agency Level 1</u>	<u>Public Agency Level 2</u>
<b>1) Development of Unfunded Liability</b>		
a. Present Value of Future Survivor Benefits	\$2,227,779	\$2,084,000
b. Actuarial Value of Assets	\$30,302,636	\$7,839,589
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	(\$28,074,857)	(\$5,755,589)
<b>2) Development of Normal Cost</b>		
a. Present Value of Benefits for 2006-2009 Deaths <sup>1</sup>	\$9,612,330	\$12,015,412
b. Number of 2006-2009 Member Months <sup>1</sup>	6,781,704	6,781,704
c. Total per member, per month 2010/2011 Term Insurance Normal Cost	\$1.40	\$1.80
d. Total per member, per month 2011/2012 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest \$0.10	\$1.40	\$1.80
<b>3) 2011 Projected Unfunded Liability</b>		
a. 2010 Unfunded Accrued Liability as of June 30, 2011 [1(c)*1.0775]	(\$30,250,658)	(\$6,201,647)
b. Projected Normal Cost Accrual 2010-2011 with interest	\$146,117	\$97,210
c. Projected Employer Contributions 2010-2011 with interest	\$0	\$0
d. Projected Employee Contributions 2010-2011 with interest	\$201,045	\$104,035
e. Total Projected UAL as of June 30, 2011 [3(a)+3(b)-3(c)-3(d)]	(\$30,305,587)	(\$6,208,472)
<b>4) 2011/2012 Required Contribution</b>		
a. Required Normal Cost per member, per month [2(d)]	\$1.40	\$1.80
b. Projected Active Members as of 6/30/2011	8,019	4,155
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775 <sup>1/2</sup> ]	\$139,842	\$93,161
d. Amortization of the UAL/(Excess Assets)	(\$139,842)	(\$93,161)
e. Total Required Contribution Per Member, Per Month [(4(c)+4(d))/(4(b)/12)], rounded to nearest \$0.10	\$0.00	\$0.00
f. Amortization Period	N/A	N/A
<b>5) 2011/2012 Required Employer and Employee Premiums</b>		
a. Required Employee Premium per member, per month	\$2.00	\$2.00
b. Required Employer Premium per member, per month [maximum(\$0,4(e)-5(a))]	\$0.00	\$0.00

**Notes:**

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data.

The following table develops the annual premiums required for 2011-2012 for the Public Agency 3<sup>rd</sup> and 4th Level Pools.

**Development of Funding Requirements  
for Public Agency 3rd and 4th Level Pools  
June 30, 2010 Annual Valuation of 1959 Survivor Program**

	<b>Public Agency Level 3</b>	<b>Public Agency Level 4</b>
<b>1) Development of Unfunded Liability</b>		
a. Present Value of Future Survivor Benefits	\$24,263,435	\$110,178,839
b. Actuarial Value of Assets	<u>\$79,897,971</u>	<u>\$129,072,008</u>
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	(\$55,634,536)	(\$18,893,169)
<b>2) Development of Normal Cost</b>		
a. Present Value of Benefits for 2006-2009 Deaths <sup>1</sup>	\$18,690,641	\$50,731,740
b. Number of 2006-2009 Member Months <sup>1</sup>	6,781,704	6,781,704
c. Total per member, per month 2010/2011 Term Insurance Normal Cost	\$2.70	\$7.40
d. Total per member, per month 2011/2012 Term Insurance Normal Cost	\$2.70	\$7.40
[.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest \$0.10		
<b>3) 2011 Projected Unfunded Liability</b>		
a. 2010 Unfunded Accrued Liability as of June 30, 2011 [1(c)*1.0775]	(\$59,946,212)	(\$20,357,390)
b. Projected Normal Cost Accrual 2010-2011 with interest	\$1,490,809	\$7,004,078
c. Projected Employer Contributions 2010-2011 with interest	\$0	\$3,557,076
d. Projected Employee Contributions 2010-2011 with interest	<u>\$1,063,633</u>	<u>\$1,824,141</u>
e. Total Projected UAL as of June 30, 2011 [3(a)+3(b)-3(c)-3(d)]	(\$59,519,037)	(\$18,734,529)
<b>4) 2011/2012 Required Contribution</b>		
a. Required Normal Cost per member, per month [2(d)]	\$2.70	\$7.40
b. Projected Active Members as of 6/30/2011	42,459	73,764
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775 <sup>1/2</sup> ]	\$1,427,984	\$6,799,329
d. Amortization of the UAL/(Excess Assets)	(\$1,427,984)	(\$1,565,514)
e. Total Required Contribution Per Member, Per Month [(4(c)+4(d))/(4(b)/12)], rounded to nearest \$0.10	\$0.00	\$5.90
f. Amortization Period	N/A	30-year
<b>5) 2011/2012 Required Employer and Employee Premiums</b>		
a. Required Employee Premium per member, per month	\$2.00	\$2.00
b. Required Employer Premium per member, per month [maximum(\$0,4(e)-5(a))]	\$0.00	\$3.90

**Notes:**

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data.

The following table develops the annual premiums required for 2011-2012 for the Public Agency Indexed Level Pool.

**Development of Funding Requirements  
for Public Agency Indexed Level Pool  
June 30, 2010 Annual Valuation of 1959 Survivor Program**

	<b>Public Agency Indexed Level</b>
<b>1) Development of Unfunded Liability</b>	
a. Present Value of Future Benefits for Active Members	\$9,791,437
b. Present Value of Future Benefits for Current Survivors	<u>\$12,512,434</u>
c. Total Present Value of Future Benefits [1(a)+1(b)]	\$22,303,871
d. Present Value of Future Normal Costs	<u>\$6,088,617</u>
e. Entry Age Normal Total Accrued Liability [1(c)-1(d)]	\$16,215,254
f. Actuarial Value of Assets	<u>\$17,838,492</u>
g. Unfunded Accrued Liability/(Excess Assets) [1(e)-1(f)]	(\$1,623,238)
<b>2) Development of Normal Cost</b>	
a. Required Entry Age Normal Cost	\$892,174
b. Active Members as of June 30, 2010	10,543
c. Total per member per month Entry Age Normal Cost [2(a)/2(b)*12], rounded to nearest \$0.10	\$7.10
<b>3) 2011 Projected Unfunded Liability</b>	
a. 2010 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2011 [1(g)*1.0775]	(\$1,749,039)
b. Projected Normal Cost Accrual 2010-2011 with interest	\$973,407
c. Projected Employer Contributions 2010-2011 with interest	\$383,106
d. Projected Employee Contributions 2010-2011 with interest	<u>\$383,106</u>
e. Total Projected UAL as of June 30, 2011 [3(a)+3(b)-3(c)-3(d)]	(\$1,541,844)
<b>4) 2011/2012 Required Contribution</b>	
a. Required Normal Cost per member, per month [2(c)]	\$7.10
b. Projected Active Members as of June 30, 2011	10,668
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775 <sup>1/2</sup> ]	\$943,477
d. Amortization of the UAL/(Excess Assets)	(\$128,841)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)/12)], rounded to nearest \$0.10	\$6.40
f. Amortization Period	30-year
<b>5) 2011/2012 Employer and Employee Premiums with Cost Sharing Provision</b>	
a. Required Employee Premium per member, per month [maximum(2,4(e)/2)]	\$3.20
b. Required Employer Premium per member, per month [maximum(0,4(e)-5(a))]	\$3.20

### Gain/(Loss) Analysis 6/30/2009 – 6/30/2010

#### State 5<sup>th</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the State 5<sup>th</sup> Level Pool.

##### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 132,865,010
2) Actuarial Value of Assets	<u>99,916,930</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	32,948,080

##### Amounts During the Period 6/30/2009 – 6/30/2010

4) Expected Claims for the Fiscal Year	7,582,583
5) Employer and Employee Premiums Collected	9,750,181
6) Benefit Payments	(16,040,982)
7) Net Liabilities Transferred into the State 5 <sup>th</sup> level pool	0
8) Net Assets Transferred into the State 5 <sup>th</sup> level pool	0

##### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	134,382,002
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>101,130,471</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	33,251,531

##### Amounts as of 6/30/2010

12) Present Value of Benefits	133,976,361
13) Actuarial Value of Assets	<u>100,321,586</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	33,654,775

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	405,641
16) Asset Gain/(Loss) [(13) – (10)]	<u>(808,885)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (403,244)</u>

### Gain/(Loss) Analysis 6/30/2009 – 6/30/2010

#### Schools 5<sup>th</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Schools 5<sup>th</sup> Level Pool.

##### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 11,739,404
2) Actuarial Value of Assets	<u>51,566,134</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(39,826,730)

##### Amounts During the Period 6/30/2008 – 6/30/2010

4) Expected Claims for the Fiscal Year	626,688
5) Employer and Employee Premiums Collected	256,369
6) Benefit Payments	(1,461,265)
7) Net Liabilities Transferred into the Schools 5 <sup>th</sup> level pool	0
8) Net Assets Transferred into the Schools 5 <sup>th</sup> level pool	0

##### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	11,782,894
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>54,311,795</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(42,528,900)

##### Amounts as of 6/30/2010

12) Present Value of Benefits	11,456,594
13) Actuarial Value of Assets	<u>53,899,005</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(42,442,411)

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	326,300
16) Asset Gain/(Loss) [(13) – (10)]	<u>(412,790)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (86,489)</u>



### Gain/(Loss) Analysis 6/30/2009 – 6/30/2010

#### Public Agency 1<sup>st</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Public Agency 1<sup>st</sup> Level Pool.

##### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 2,211,657
2) Actuarial Value of Assets	<u>28,350,904</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(26,139,247)

##### Amounts During the Period 6/30/2009 – 6/30/2010

4) Expected Claims for the Fiscal Year	138,466
5) Employer and Employee Premiums Collected	200,096
6) Benefit Payments	(219,347)
7) Net Liabilities Transferred into the 1 <sup>st</sup> level pool	0
8) Net Assets Transferred into the 1 <sup>st</sup> level pool	0

##### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	2,299,103
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>30,528,116</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(28,229,013)

##### Amounts as of 6/30/2010

12) Present Value of Benefits	2,227,779
13) Actuarial Value of Assets	<u>30,302,636</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(28,074,857)

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	71,324
16) Asset Gain/(Loss) [(13) – (10)]	<u>(225,480)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (154,156)</u>

### Gain/(Loss) Analysis 6/30/2009 – 6/30/2010

#### Public Agency 2<sup>nd</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Public Agency 2<sup>nd</sup> Level Pool.

##### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 1,983,718
2) Actuarial Value of Assets	<u>7,441,346</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(5,457,628)

##### Amounts During the Period 6/30/2009 – 6/30/2010

4) Expected Claims for the Fiscal Year	90,185
5) Employer and Employee Premiums Collected	100,207
6) Benefit Payments	(214,875)
7) Net Liabilities Transferred into the 2 <sup>nd</sup> level pool	0
8) Net Assets Transferred into the 2 <sup>nd</sup> level pool	0

##### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	2,008,024
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>7,899,022</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(5,890,997)

##### Amounts as of 6/30/2010

12) Present Value of Benefits	2,084,000
13) Actuarial Value of Assets	<u>7,839,589</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(5,755,589)

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	(75,976)
16) Asset Gain/(Loss) [(13) – (10)]	<u>(59,433)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (135,409)</u>

## Gain/(Loss) Analysis 6/30/2009 - 6/30/2010

### Public Agency 3<sup>rd</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Public Agency 3<sup>rd</sup> Level Pool.

#### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 24,213,399
2) Actuarial Value of Assets	<u>76,647,200</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(52,433,801)

#### Amounts During the Period 6/30/2009 - 6/30/2010

4) Expected Claims for the Fiscal Year	1,433,283
5) Employer and Employee Premiums Collected	1,038,102
6) Benefit Payments	(2,509,477)
7) Net Liabilities Transferred into the 3 <sup>rd</sup> level pool	(115,245)
8) Net Assets Transferred into 3 <sup>rd</sup> level pool	(527,943)

#### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	24,853,192
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>80,512,012</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(55,658,820)

#### Amounts as of 6/30/2010

12) Present Value of Benefits	24,263,435
13) Actuarial Value of Assets	<u>79,897,971</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(55,634,536)

#### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	589,757
16) Asset Gain/(Loss) [(13) – (10)]	<u>(614,041)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (24,285)</u>

### Gain/(Loss) Analysis 6/30/2009 - 6/30/2010

#### Public Agency 4<sup>th</sup> Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Public Agency 4<sup>th</sup> Level Pool.

##### Amounts as of 6/30/2009

1) Present Value of Benefits	\$ 106,819,952
2) Actuarial Value of Assets	<u>128,436,755</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(21,616,803)

##### Amounts During the Period 6/30/2009 – 6/30/2010

4) Expected Claims for the Fiscal Year	6,564,629
5) Employer and Employee Premiums Collected	3,562,749
6) Benefit Payments	(12,066,476)
7) Net Liabilities Transferred into the 4 <sup>th</sup> level pool	312,808
8) Net Assets Transferred into the 4 <sup>th</sup> level pool	527,943

##### Expected Amounts as of 6/30/2010

9) Expected Present Value of Benefits	109,712,135
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>130,111,525</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(20,399,389)

##### Amounts as of 6/30/2010

12) Present Value of Benefits	110,178,839
13) Actuarial Value of Assets	<u>129,072,008</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(18,893,169)

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	(466,704)
16) Asset Gain/(Loss) [(13) – (10)]	<u>(1,039,516)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (1,506,220)</u>

### Gain/(Loss) Analysis 6/30/2009 - 6/30/2010

#### Public Agency Indexed Level Pool

The following table develops the asset and demographic gain and losses between June 30, 2009 and June 30, 2010 for the Public Agency Indexed Level Pool.

##### Amounts as of 6/30/2009

1) Accrued Liability	\$ 14,606,811
2) Actuarial Value of Assets	<u>17,315,166</u>
3) Unfunded Liability/(Excess Assets) [(1)-(2)]	(2,708,355)

##### Amounts During the Period 6/30/2009 – 6/30/2010

4) Normal Cost for the Fiscal Year	891,225
5) Employer and Employee Premiums Collected	255,631
6) Benefit Payments	(910,160)
7) Net Liabilities Transferred into the Indexed Level pool	0
8) Net Assets Transferred into the Indexed Level pool	0

##### Expected Amounts as of 6/30/2010

9) Expected Accrued Liability	15,719,184
[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775) <sup>1/2</sup> ]	
10) Expected Actuarial Value of Assets	<u>17,977,673</u>
[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775) <sup>1/2</sup> ]	
11) Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(2,258,489)

##### Amounts as of 6/30/2010

12) Accrued Liability	16,215,254
13) Actuarial Value of Assets	<u>17,838,492</u>
14) Unfunded Liability/(Excess Assets) [(12)-(13)]	(1,623,238)

##### Gain/(Loss) for the Period 6/30/2009 – 6/30/2010

15) Liability Gain/(Loss) [(9) – (12)]	(496,070)
16) Asset Gain/(Loss) [(13) – (10)]	<u>(139,180)</u>
17) Total Gain/(Loss) [(15) + (16)]	<u>\$ (635,251)</u>

### State 5<sup>th</sup> Level Pool

#### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the State 5<sup>th</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 83,264,108
2) Contributions (Employer and Employee) received during 2009-2010	9,750,181
3) Benefit Payments during 2009-2010	(16,040,982)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	<u>12,023,893</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 88,997,200</u>

#### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the State 5<sup>th</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 99,916,930
2) Contributions (Employer and Employee) received during 2009-2010	9,750,181
3) Benefit Payments during 2009-2010	(16,040,982)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>7,504,342</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 101,130,471
7) Market Value of Assets as of 6/30/2010	\$ 88,997,200
8) Actuarial Value of Assets as of 6/30/2010 [(6) + (((7)-(6)) ÷ 15), but not less than 80% or more than 120% of (7)]	<u>\$ 100,321,586</u>
9) Ratio of Actuarial Value to Market Value of Assets	112.72 %

### Schools 5<sup>th</sup> Level Pool

### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Schools 5<sup>th</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 42,971,778
2) Contributions (Employer and Employee) received during 2009-2010	256,369
3) Benefit Payments during 2009-2010	(1,461,265)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	<u>6,353,069</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 48,119,951</u>

### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Schools 5<sup>th</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 51,566,134
2) Contributions (Employer and Employee) received during 2009-2010	256,369
3) Benefit Payments during 2009-2010	(1,461,265)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>3,950,557</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 54,311,795
7) Market Value of Assets as of 6/30/2010	\$ 48,119,951
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$ 53,899,005</u>
9) Ratio of Actuarial Value to Market Value of Assets	112.01 %

### Public Agency 1<sup>st</sup> Level Pool

### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 1<sup>st</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 23,625,753
2) Contributions (Employer and Employee) received during 2009-2010	200,096
3) Benefit Payments during 2009-2010	(219,347)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	<u>3,539,414</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 27,145,916</u>

### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 1<sup>st</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 28,350,904
2) Contributions (Employer and Employee) received during 2009-2010	200,096
3) Benefit Payments during 2009-2010	(219,347)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>2,196,463</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 30,528,116
7) Market Value of Assets as of 6/30/2010	\$ 27,145,916
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$ 30,302,636</u>
9) Ratio of Actuarial Value to Market Value of Assets	111.63 %

### Public Agency 2<sup>nd</sup> Level Pool



### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 2<sup>nd</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 6,201,122
2) Contributions (Employer and Employee) received during 2009-2010	100,207
3) Benefit Payments during 2009-2010	(214,875)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	<u>921,073</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 7,007,527</u>

### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 2<sup>nd</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 7,441,346
2) Contributions (Employer and Employee) received during 2009-2010	100,207
3) Benefit Payments during 2009-2010	(214,875)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>572,344</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 7,899,022
7) Market Value of Assets as of 6/30/2010	\$ 7,007,527
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$ 7,839,589</u>
9) Ratio of Actuarial Value to Market Value of Assets	111.87%

### Public Agency 3<sup>rd</sup> Level Pool

### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 3<sup>rd</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 63,872,667
2) Contributions (Employer and Employee) received during 2009-2010	1,038,102
3) Benefit Payments during 2009-2010	(2,509,477)
4) Net Transfer of Assets into and out of this pool	(527,943)
5) Investment Earnings credited	<u>9,428,046</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 71,301,395</u>

### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 3<sup>rd</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 76,647,200
2) Contributions (Employer and Employee) received during 2009-2010	1,038,102
3) Benefit Payments during 2009-2010	(2,509,477)
4) Net Transfer of Assets into and out of this pool	(527,943)
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>5,864,130</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 80,512,012
7) Market Value of Assets as of 6/30/2010	\$ 71,301,395
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$ 79,897,971</u>
9) Ratio of Actuarial Value to Market Value of Assets	112.06 %

### Public Agency 4<sup>th</sup> Level Pool

#### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency 4<sup>th</sup> Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 107,030,629
2) Contributions (Employer and Employee) received during 2009-2010	3,562,749
3) Benefit Payments during 2009-2010	(12,066,476)
4) Net Transfer of Assets into and out of this pool	527,943
5) Investment Earnings credited	<u>15,463,938</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$114,518,783</u>

#### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency 4<sup>th</sup> Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 128,436,755
2) Contributions (Employer and Employee) received during 2009-2010	3,562,749
3) Benefit Payments during 2009-2010	(12,066,476)
4) Net Transfer of Assets into and out of this pool	527,943
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>9,650,554</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 130,111,525
7) Market Value of Assets as of 6/30/2010	\$114,518,783
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6)) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$129,072,008</u>
9) Ratio of Actuarial Value to Market Value of Assets	112.71 %

### Public Agency Indexed Level Pool

#### Reconciliation of the Market Value of Assets from the Prior Fiscal Year

The following table shows the changes in the market value of assets for the Public Agency Indexed Level Pool between June 30, 2009 and June 30, 2010.

1) Beginning Balance 6/30/2009	\$ 14,429,305
2) Contributions (Employer and Employee) received during 2009-2010	255,631
3) Benefit Payments during 2009-2010	(910,160)
4) Net Transfer of Assets into and out of this pool	0
5) Investment Earnings credited	<u>2,115,194</u>
6) Ending Balance 6/30/2010 [(1)+(2)+(3)+(4)+(5)]	<u>\$ 15,889,970</u>

#### Development of the Actuarial Value of Assets

The following table develops the actuarial value of assets for the Public Agency Indexed Level Pool for the valuation date June 30, 2010.

1) Actuarial Value of Assets as of 6/30/2009	\$ 17,315,166
2) Contributions (Employer and Employee) received during 2009-2010	255,631
3) Benefit Payments during 2009-2010	(910,160)
4) Net Transfer of Assets into and out of this pool	0
5) Expected investment earnings during fiscal 2009-2010 [(1) * 0.0775 + ((2) + (3) + (4)) * (1.0775 <sup>1/2</sup> - 1)]	<u>1,317,036</u>
6) Expected Actuarial Value of Assets as of 6/30/2010 [(1) + (2) + (3) + (4) + (5)]	\$ 17,977,673
7) Market Value of Assets as of 6/30/2010	\$ 15,889,970
8) Actuarial Value of Assets as of 6/30/2010 [(6) + [(7)-(6) ÷ 15], but not less than 80% or more than 120% of (7)]	<u>\$17,838,492</u>
9) Ratio of Actuarial Value to Market Value of Assets	112.26 %

## Summary of Plan Provisions

The 1959 Survivor program was designed to provide pre-retirement death benefits comparable to those provided by Social Security, formally the Federal Old Age and Survivor Insurance (OASI) program, to CalPERS' members not covered by Social Security.

Eligibility – The benefit is available only to those members not covered by Social Security OASI benefits. For public agencies, this benefit is provided by contract with CalPERS. Only those public agencies that contract for the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, or Indexed level of the program are eligible for the benefits valued in this report. Public Agency 1<sup>st</sup> and 2<sup>nd</sup> levels have been closed since January 1, 1994 and 3<sup>rd</sup> level has been closed since July 1, 2001. For State and Schools members, the 5<sup>th</sup> level benefit is provided by State statute to certain groups of employees. Members who are eligible for the benefit are given a one-time option to join at the time of contract. Members hired subsequent to the time of contract are automatically enrolled in the program.

### Benefits

Spousal or Domestic Partner Benefit – The benefit is a monthly payment to eligible surviving spouses or domestic partners age 62 or older for Public Agency Levels 1, 2 and 3 and age 60 or older for all other levels. The benefit is also payable under these deferred ages for spouses or partners that have care of children under the age of 22. As an example, assume an agency contracts for the Level 3 benefit and an active member dies and leaves behind a 35 year old spouse and 2 children, ages 5 and 15. The following table describes how the benefit would be paid over the course of time.

<u>Event</u>	<u>Monthly Benefit Paid</u>
Member Death	\$840
1 <sup>st</sup> Child turns 22	\$700
2 <sup>nd</sup> Child turns 22*	\$0
Spouse turns 62**	\$350

\* At this time, the spouse would be 52 years old and would not receive any benefit until age 62

\*\* Spouse would continue to receive this benefit until his/her death

Child Benefit – Children are eligible under the age of 22 whether or not a spouse or domestic partner exists. For 2 or more children, the 3 survivor benefit is paid; for 2 children, the 2 survivor benefit is paid and so forth (see tables below). In all cases, unless a child is disabled, the benefit stops at age 22. If a child is disabled, the benefit is paid until the disability ceases.

Parental Benefit – If there is no eligible spouse or domestic partner or children, parent(s) dependent for at least half of their subsistence from the deceased member may be eligible for benefits. The parent(s) must be over age 62 for Public Agency Levels 1, 2 and 3 and over age 60 for all other levels.

The monthly benefit amount depends upon the coverage level within the program.

Level 1 (For Members of Public Agencies who Contract)

- |   |       |
|---|-------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$430 |
| b. spouse with one eligible child; or two eligible children only  | \$360 |
| c. one eligible child only; or spouse age 62 or older; or eligible dependent parents                    | \$180 |

Level 2 (For Members of Public Agencies who Contract)

- |   |       |
|---|-------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$538 |
| b. spouse with one eligible child; or two eligible children only  | \$450 |
| c. one eligible child only; or spouse age 62 or older; or eligible dependent parents                    | \$225 |

Level 3 (For Members of Public Agencies who Contract)

- |   |       |
|---|-------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$840 |
| b. spouse with one eligible child; or two eligible children only  | \$700 |
| c. one eligible child only; or spouse age 62 or older; or eligible dependent parents                    | \$350 |

Level 4 (For Members of Public Agencies who Contract)

- |   |         |
|---|---------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$2,280 |
| b. spouse with one eligible child; or two eligible children only  | \$1,900 |
| c. one eligible child only; or spouse age 60 or older; or eligible dependent parents                    | \$950   |

Indexed Level (For Members of Public Agencies who Contract)

- |   |                      |
|---|----------------------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$1,865 <sup>1</sup> |
| b. spouse with one eligible child; or two eligible children only  | \$1,243 <sup>1</sup> |
| c. one eligible child only; or spouse age 60 or older; or eligible dependent parents                    | \$622 <sup>1</sup>   |

Level 5 – (For State and Schools Members)

- |   |         |
|---|---------|
| a. spouse or domestic partner with two or more eligible children;<br>or three or more eligible children | \$1,800 |
| b. spouse with one eligible child; or two eligible children only  | \$1,500 |
| c. one eligible child only; or spouse age 60 or older; or eligible dependent parents                    | \$750.  |

1 - These figures indicate calendar year benefit amounts for the Indexed Level in effect for calendar year 2011. Benefit amounts will increase by 2 percent each January 1.

### **Summary of Plan Provisions (continued)**

In September 2009, the CalPERS Board of Administration approved Staff's recommendation to combine 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Levels into one pool and eliminate the \$2.00 per member, per month contribution for all employees indefinitely. The legislation needed to create this new pool is expected to make its way through the Legislature in the summer of 2011. Should this legislation pass, next year's valuation will combine these three levels and all provisions and benefit levels associated with 1<sup>st</sup> and 2<sup>nd</sup> Levels will automatically convert to 3<sup>rd</sup> Level.

Existing public agency employers joining the Public Agency 4<sup>th</sup> or Indexed Level Pool during the 2011-2012 fiscal year are required to pay only the Unfunded Liability based on their own membership (amortized over a period of 5 years) which exists at the time they join *plus* the agency's normal cost for all members at the new benefit level for the first five years. If they have excess assets, then they will be allowed to use as much of it as necessary to offset any increased liabilities incurred at the higher level and required employer premiums incurred at the higher level.

### Comparison of Social Security and CalPERS 1959 Survivor Benefits

The following tables compare current Social Security survivor benefits with current benefit levels paid under the 1959 Survivor Program.

Survivor Group	Social Security <sup>1</sup>		
	Low	Average	High
One Survivor	\$ 709	\$ 1,093	\$ 1,549
Two Survivors	\$ 1,418	\$ 2,186	\$ 3,098
Three Survivors	\$ 1,420	\$ 2,693	\$ 3,616

The values shown assume death at age 45 (benefits slightly higher at lower ages, lower at higher ages), and steady earnings. “Low” is 2010 salary of \$25,000, “Average” is \$50,000, and “High” is exceeding the maximum OASDI taxable earnings.

Survivor Group	CalPERS 1959 Survivor Benefit					
	First	Second	Third	Fourth	Indexed <sup>2</sup>	Schools/ State 5th
One Survivor	\$ 180	\$ 225	\$ 350	\$ 950	\$ 622	\$ 750
Two Survivors	\$ 360	\$ 450	\$ 700	\$ 1,900	\$ 1,243	\$ 1,500
Three Survivors	\$ 430	\$ 538	\$ 840	\$ 2,280	\$ 1,865	\$ 1,800

1 - Unlike the 1959 Survivor Benefit (with the exception of the Indexed level), federal Social Security benefits normally receive an automatic cost-of-living adjustment every year. Also, unlike the 1959 Survivor Benefit, Social Security benefits are based on a worker’s actual earnings up to the maximum covered. The values in this table were calculated using the “Quick Calculator” at the Social Security website.

2 – Amounts effective January 1, 2011



### **Actuarial Funding Method for Public Agency 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Level, and State and Schools 5<sup>th</sup> Level Pools**

The actuarial funding method used, as provided in State statute for public agency 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> level, and State and Schools 5<sup>th</sup> level pools, is called the Term Insurance method. This is a terminal funding arrangement with no pre-funding of the survivor benefits payable on account of deaths expected to occur beyond those in the coming year.

The Normal Cost for the year is equal to the Expected Claims (present value of benefits arising from deaths) that will occur in the coming fiscal year. The expected claims for the coming fiscal year is determined as the expected claim per member, per month multiplied by the expected member months for the coming fiscal year. The normal cost (or expected claims) per member, per month for the coming fiscal year is equal to a weighted average of the prior year and current year normal cost. Specifically, the current year's normal cost is calculated as the present value of member deaths for the past 4 years divided by the total number of members exposed to the death benefit over the same period. Then the normal cost (expected claims) for the coming year is simply 25% of the current year's normal cost and 75% of the prior year's normal cost. The reason for this methodology comes from the fact that when new deaths occur each year, it is often unknown which benefit will ultimately apply (i.e. 1957 Survivor, Industrial Death, Pre-Retirement Option 2 or 1959 Survivor). Many times, new deaths are initially placed under the 1959 Survivor roll, but ultimately are reclassified to another roll some time later. This can create extreme volatility in the normal cost calculation between valuation years, especially for smaller pools.

The consequence of this approach is that very little weight is given to the most recent year's data and more weight is given to previous years. In fact, as this methodology matures or reaches a steady state, all data from the past would have some impact on the calculated normal cost. The following matrix shows ultimate weights for the past ten year's data as the methodology approaches its steady state:

<u>Data t years ago</u>	<u>Weights</u>
1	6.3%
2	10.9
3	14.5
4	17.1
5	12.8
6	9.6
7	7.2
8	5.4
9	4.1
10	3.0

The Accrued Liability is equal to the Present Value of Benefits payable to current survivors. If the Accrued Liability exceeds the Actuarial Value of Assets, the difference is called the Unfunded Liability. On the other hand, if the Actuarial Value of Assets exceeds the Accrued Liability, the difference is called Excess Assets.

The required employer monthly premium is the total required monthly premium less the \$2.00 per month member contributions as required by State Statute Section 21581. For all levels, existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, for the State and Schools 5<sup>th</sup> Level pool, if the total required monthly premium after amortization of excess assets exceeds \$4, the member and the employer shall evenly share the required monthly premium. For the current valuation date, the unfunded liability for the State 5<sup>th</sup> Level pool was amortized over a 30-year period. Excess assets for the Schools 5<sup>th</sup> Level pool, and Public Agency 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Level pools were sufficient to offset required employer contributions indefinitely, based on June 30, 2010 data and assumptions. Excess assets for the Public Agency 4<sup>th</sup> Level were amortized over a 30-year period, and are not sufficient to fully offset the required employer contribution. The resulting employer contribution for the 4<sup>th</sup> Level is \$3.90 per covered member per month.

### **Actuarial Funding Method for Public Agency Indexed Level Pool**

The funding method used for the Public Agency Indexed Level pool is the Entry Age Normal method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces an annual cost that increases by approximately 2% in each year.

The Normal Cost for the Public Agency Indexed Level pool is the portion of the total Entry Age Normal Cost, as described in the preceding paragraph that is allocated to the current fiscal year. Since there is no cost allocated to the current fiscal year for those already receiving benefits or are in a deferred status, only active members have a Normal Cost. The population demographics, excluding population growth, are assumed to remain stable for purposes of projecting the Normal Cost to the year for which the contribution requirement is being determined.

The Accrued Liability is equal to the Present Value of Future Benefits for both current survivors and active members, less the Present Value of Future Normal Costs.

The total required monthly premium is the sum of the individual Normal Costs divided by the number of member months. The required employer monthly premium is the total required monthly premium less the \$2.00 per month member contributions as required by State Statute Section 21581. Existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, if the total required monthly premium after amortization of excess assets exceeds \$4.00, the member and the employer shall evenly share the required monthly premium. Excess assets for the Public Agency Indexed Level are amortized over a 30-year period. The resulting employer contribution for the Indexed Level is \$3.20 per covered member per month.

### **Asset Valuation Method**

In order to dampen the effect of short term market value fluctuations on employer contribution rates, the following asset smoothing technique is used. First, an Expected Value of Assets is computed by bringing forward the prior year's Actuarial Value of Assets and the contributions received and benefits paid during the year at the assumed actuarial rate of return. The Actuarial Value of Assets is then computed as the Expected Value of Assets plus one-fifteenth of the difference between the actual Market Value of Assets and Expected Value of Assets as of the valuation date. However, in no case will the Actuarial Value of Assets be less than 80% nor greater than 120% of the actual Market Value of Assets.

### **Actuarial Assumptions**

The actuarial assumptions used in this valuation include the investment return rate and the mortality rates for current beneficiaries. These assumptions are shown below. Actual mortality rates for active members of all pools combined are shown in Appendix 3 and are inherent in the calculation of the annual normal costs, except for the Public Agency Indexed Level.

### **Economic Assumptions**

Investment Return	7.75% compounded annually (net of administrative expenses).
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### **Demographic Assumptions**

The following table shows mortality rates for the 1959 Survivor Program by age and sex.

<u>Attained Age</u>	<u>Male Mortality Rate</u>	<u>Female Mortality Rate</u>
20	.0004	.0003
25	.0006	.0003
30	.0007	.0003
35	.0008	.0004
40	.0009	.0006
45	.0013	.0009
50	.0024	.0013
55	.0047	.0024
60	.0072	.0043
65	.0107	.0078
70	.0168	.0124
75	.0308	.0207
80	.0527	.0375
85	.0978	.0701
90	.1675	.1240
95	.2566	.2156
100	.3455	.3188
105	.5853	.5609
110	1.0000	1.0000

### **Method for Projecting Active Counts**

In the past, actuarial staff has found that two particular methods have worked well in predicting future active member counts for the pools. Projected counts are necessary to determine employer premiums. The two methods that are normally used are linear trend or autoregressive models. For this valuation year, we will continue to use these models for the Public Agency Pools. They continue to model slow and even declining growth in the Levels 1, 2 and 3 pools and less positive growth in Level 4 and Indexed. This is to be expected, since the first three levels are closed to new entrants and Levels 4 and Indexed are still open to amending and new contracting.

However, these methods when applied to the State and Schools Pools are still predicting fairly robust growth. Given the state of the economy, current hiring practices of the State and the fact that new migration into and out of these pools do not take place, we have subjectively decided to forgo the results from these methods and assume that growth is flat for the next 2 years in these pools. That is, we are assuming that the active population for valuation years 2011 and 2012 will equal that of 2010 (this current valuation).

#### **Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level**

The Public Agency Indexed Level's Accrued Liability and Entry Age Normal cost for active members are calculated based on the actuarial assumptions for our Public Agency miscellaneous 2% @ 55 and police 2% @ 50 pension plans. The final valuation results equals the sum of the results valued on the basis of a miscellaneous 2% @ 55 plan plus the results valued on the basis of a police 2% @ 50 plan, where all miscellaneous employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using miscellaneous 2% @ 55 assumptions, and all safety employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using police 2% @ 50 assumptions.

The actuarial assumptions for each of these plans are as follows:

##### **Eligible Survivor Status**

For active members of both the Miscellaneous and Safety Police plans, the probability of having eligible survivor(s) at the date of death is assumed according to the following table:

<u>Age at Death</u>	<u>Percent having Eligible Survivor(s)</u>
Age 20 and under	30%
Between ages 21 and 24	50%
Between ages 25 and 29	70%
Between ages 30 and 39	90%
Between ages 40 and 49	95%
Between ages 50 and 54	90%
Age 55 and above	85%

Average claims are developed at every age using actual experience from the program. These average claims are then multiplied by the percentages in the above table. The results are used to estimate expected claims in the active population.

### **Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level (continued)**

Benefit amounts and Present Value of benefits were based on average claim experience. A sample of the average claim experience is shown in the table below:

Age at Death	Present Value of Average Claim at the Time of Death*
20 and below	\$25,901
25	\$86,136
30	\$120,232
35	\$114,938
40	\$107,691
45	\$91,864
50	\$73,882
55	\$61,283
60	\$57,360
65	\$57,134
70	\$58,198
75	\$56,619
80 and above	\$46,938

Average claims were calculated using actual experience from the 1959 Survivor program and smoothed using a polynomial regression model.

\*Values are based on an initial benefit of \$500/\$1,000/\$1,500 for one two or three survivors, respectively. This was the benefit level on June 30, 2000, when the Indexed Level first became effective. The valuation program increases these amounts by 2% per year up to the current valuation year.

### **Public Agency Miscellaneous 2% @ 55**

### **Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability**

Rates vary by age and sex. See sample rates in table below.

Attained Age	Male		Female	
	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)
	Death	Disability	Death	Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00010	0.00014	0.00010
30	0.00038	0.00021	0.00021	0.00020
35	0.00054	0.00063	0.00031	0.00088
40	0.00077	0.00145	0.00046	0.00164
45	0.00110	0.00252	0.00068	0.00243
50	0.00156	0.00331	0.00102	0.00311
55	0.00221	0.00366	0.00151	0.00306
60	0.00314	0.00377	0.00226	0.00253

**Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level  
(continued)**

**Public Agency Miscellaneous 2% @ 55 (continued)**

**Service Retirement**

Rates vary by age and service. See table sample below.

<u>Age</u>	<u>Service Retirement</u>					
	<u>Duration of Service</u>					
	<u>5 Years</u>	<u>10 Years</u>	<u>15 Years</u>	<u>20 Years</u>	<u>25 Years</u>	<u>30 Years</u>
50	0.0150	0.0200	0.0240	0.0290	0.0330	0.0390
51	0.0130	0.0160	0.0200	0.0240	0.0270	0.0330
52	0.0140	0.0180	0.0220	0.0270	0.0300	0.0360
53	0.0170	0.0220	0.0270	0.0320	0.0370	0.0430
54	0.0270	0.0340	0.0410	0.0490	0.0560	0.0670
55	0.0500	0.0640	0.0780	0.0940	0.1070	0.1270
56	0.0450	0.0570	0.0690	0.0830	0.0950	0.1130
57	0.0480	0.0610	0.0740	0.0900	0.1020	0.1220
58	0.0520	0.0660	0.0800	0.0970	0.1100	0.1310
59	0.0600	0.0760	0.0920	0.1110	0.1270	0.1510
60	0.0720	0.0920	0.1120	0.1340	0.1530	0.1820
61	0.0890	0.1130	0.1370	0.1650	0.1880	0.2240
62	0.1280	0.1620	0.1970	0.2370	0.2700	0.3220
63	0.1290	0.1640	0.1990	0.2390	0.2730	0.3250
64	0.1160	0.1480	0.1800	0.2160	0.2470	0.2940
65	0.1740	0.2210	0.2690	0.3230	0.3690	0.4390
66	0.1350	0.1710	0.2080	0.2500	0.2850	0.3400
67	0.1330	0.1690	0.2060	0.2470	0.2820	0.3360
68	0.1180	0.1500	0.1820	0.2190	0.2500	0.2970
69	0.1160	0.1470	0.1790	0.2150	0.2460	0.2930
70	0.1380	0.1760	0.2140	0.2570	0.2930	0.3490

**Termination with Refund**

Rates vary by entry age and service. See sample rates in table below.

<u>Duration of Service</u>	<u>Termination with Refund</u>					
	<u>Entry Age</u>					
	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	0.1742	0.1674	0.1606	0.1537	0.1468	0.1400
1	0.1545	0.1477	0.1409	0.1339	0.1271	0.1203
2	0.1348	0.1280	0.1212	0.1142	0.1074	0.1006
3	0.1151	0.1083	0.1015	0.0945	0.0877	0.0809
4	0.0954	0.0886	0.0818	0.0748	0.0680	0.0612
5	0.0212	0.0193	0.0174	0.0155	0.0136	0.0116
10	0.0138	0.0121	0.0104	0.0088	0.0071	0.0055
15	0.0060	0.0051	0.0042	0.0032	0.0023	0.0014
20	0.0037	0.0029	0.0021	0.0013	0.0005	0.0001
25	0.0017	0.0011	0.0005	0.0001	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001

**Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level  
(continued)**

**Public Agency Miscellaneous 2% @ 55 (continued)**

**Termination with Vested Deferred Benefits**

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Vested Deferred Benefits				
	Entry Age				
	20	25	30	35	40
5	0.0656	0.0597	0.0537	0.0477	0.0418
10	0.0530	0.0466	0.0403	0.0339	0.0000
15	0.0443	0.0373	0.0305	0.0000	0.0000
20	0.0333	0.0261	0.0000	0.0000	0.0000
25	0.0212	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000

**Public Agency Police 2% @ 50**

**Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability**

Rates vary by age and sex. See sample rates in table below.

Attained Age	Male		Female	
	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)	Non-Industrial (Not Job-Related)
	Death	Disability	Death	Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00010	0.00014	0.00010
30	0.00038	0.00020	0.00021	0.00020
35	0.00054	0.00030	0.00031	0.00030
40	0.00077	0.00040	0.00046	0.00040
45	0.00110	0.00050	0.00068	0.00050
50	0.00156	0.00080	0.00102	0.00080
55	0.00221	0.00130	0.00151	0.00130
60	0.00314	0.00200	0.00226	0.00200

**Termination with Vested Deferred Benefits**

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Vested Deferred Benefits				
	Entry Age				
	20	25	30	35	40
5	0.0163	0.0163	0.0163	0.0163	0.0163
10	0.0126	0.0126	0.0126	0.0126	0.0000
15	0.0082	0.0082	0.0082	0.0000	0.0000
20	0.0065	0.0065	0.0000	0.0000	0.0000
25	0.0058	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000



**Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level  
(continued)**

**Public Agency Police 2% @ 50 (continued)**

**Termination with Refund**

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Refund					
	Entry Age					
	20	25	30	35	40	45
0	0.1013	0.1013	0.1013	0.1013	0.1013	0.1013
1	0.0636	0.0636	0.0636	0.0636	0.0636	0.0636
2	0.0271	0.0271	0.0271	0.0271	0.0271	0.0271
3	0.0258	0.0258	0.0258	0.0258	0.0258	0.0258
4	0.0245	0.0245	0.0245	0.0245	0.0245	0.0245
5	0.0086	0.0086	0.0086	0.0086	0.0086	0.0086
10	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
15	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
20	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
25	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
30	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009

**Service Retirement**

Rates vary by age and service. See table sample below.

Age	Service Retirement					
	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0138	0.0138	0.0138	0.0138	0.0253	0.0451
51	0.0123	0.0123	0.0123	0.0123	0.0226	0.0402
52	0.0262	0.0262	0.0262	0.0262	0.0480	0.0855
53	0.0523	0.0523	0.0523	0.0523	0.0957	0.1706
54	0.0697	0.0697	0.0697	0.0697	0.1275	0.2274
55	0.0899	0.0899	0.0899	0.0899	0.1645	0.2932
56	0.0638	0.0638	0.0638	0.0638	0.1166	0.2079
57	0.0711	0.0711	0.0711	0.0711	0.1300	0.2318
58	0.0628	0.0628	0.0628	0.0628	0.1149	0.2049
59	0.1396	0.1396	0.1396	0.1396	0.1735	0.2544
60	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
61	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
62	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
63	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
64	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

## Sensitivity Analysis

The following analysis looks at what the 2012-2013 contribution rates would be under four different return scenarios. This type of analysis can give the reader a sense of the short-term risk to the contribution rates.

The first scenario is what one would expect if the markets were to give us a 5<sup>th</sup> percentile return not knowing we are already at approximately 17% so far this year. The 5<sup>th</sup> percentile return corresponds to a -12% return for the 2010-2011 fiscal year. The second scenario assumed the return would be our assumed 7.75%, which represents about a 49<sup>th</sup> percentile event. The third scenario assumes an approximate return of 17%, the rate of return attained so far this fiscal year. The last scenario is what one would expect if the markets were to give us a 95<sup>th</sup> percentile return not knowing we are already at approximately 17% for the year. This 95<sup>th</sup> percentile return is equivalent to around 27%.

The tables below shows 2012-2013 projected employee and employer contribution rates under the return scenarios mentioned above.

### -12% Return

	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	\$0.00	\$2.00
PA 2	\$0.00	\$2.00
PA 3	\$0.00	\$2.00
PA 4	\$5.70	\$2.00
Indexed	\$4.10	\$4.10
State	\$6.10	\$6.10
School	\$0.00	\$2.00

### 7.75% Return

	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	\$0.00	\$2.00
PA 2	\$0.00	\$2.00
PA 3	\$0.00	\$2.00
PA 4	\$4.00	\$2.00
Indexed	\$3.20	\$3.20
State	\$5.50	\$5.50
School	\$0.00	\$2.00

### 17% Return

	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	\$0.00	\$2.00
PA 2	\$0.00	\$2.00
PA 3	\$0.00	\$2.00
PA 4	\$4.00	\$2.00
Indexed	\$3.20	\$3.20
State	\$5.50	\$5.50
School	\$0.00	\$2.00

### 27% Return

	2012-2013 Employer Monthly Premium	2012-2013 Employee Monthly Premium
PA 1	\$0.00	\$2.00
PA 2	\$0.00	\$2.00
PA 3	\$0.00	\$2.00
PA 4	\$3.90	\$2.00
Indexed	\$3.20	\$3.20
State	\$5.40	\$5.40
School	\$0.00	\$2.00

## **Appendices**

### **Appendix 1** **Demographic and Experience Information**

### Current and Deferred Beneficiaries – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

Currently, there are 3,922 cases where liability exists. These cases include widows or widowers in deferred status even though presently there are no benefits being paid. There are 9 possible beneficiary combinations that can be associated with each case. The combinations presented below are given as of the time of death of the member *and* as they exist currently, for all levels of the 1959 Survivor program.

<b>Status</b>	<b><u>At time of Death</u></b>		<b><u>Current Condition</u></b>	
	<b><u>Number</u></b>	<b><u>Percentage</u></b>	<b><u>Number</u></b>	<b><u>Percentage</u></b>
Widow deferred	1,274	32.5%	834	21.3%
Widow only receiving	437	11.1%	2,167	55.3%
Widow with one child	695	17.7%	308	7.9%
Widow with two or more children	1,278	32.6%	328	8.4%
One child	81	2.1%	182	4.6%
Two children	93	2.4%	66	1.7%
Three or more children	57	1.5%	30	0.8%
One parent	4	0.1%	6	0.2%
Two parents	<u>3</u>	<u>0.1%</u>	<u>1</u>	<u>0.0%</u>
<b>Totals</b>	3,922	<u>100.0%</u> <sup>1</sup>	3,922	<u>100.0%</u> <sup>1</sup>

### Beneficiary Combinations at Date of Death – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

There exist 7,102 cases of death associated with the 1959 Survivor program since its inception. With this data, a historical account of each combination can be made. Further, probabilities can be approximated with respect to these combinations when a member dies. Below is a list of all combinations on record, numbers and associated percentages as of the time of death, for all levels of the 1959 Survivor program.

<b><u>Status</u></b>	<b><u>Number</u></b>	<b><u>Percent</u></b>
Widow deferred	2,169	30.5%
Widow only receiving	973	13.7%
Widow with one child	1,089	15.3%
Widow with two or more children	1,895	26.7%
One child	439	6.2%
Two children	327	4.6%
Three or more children	187	2.6%
One parent	20	0.3%
Two parents	<u>3</u>	<u>0.0%</u>
<b>Totals</b>	<u>7,102</u>	<u>100.0%</u> <sup>1</sup>

1 – Percentages may not sum to 100% due to rounding

## Appendix 2

### 1959 Survivor Coverage by Level

A CalPERS contracting agency that has employees not covered by Social Security will offer those employees 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, or Indexed Level of 1959 Survivor benefit coverage, or no 1959 Survivor coverage at all. The following table shows the number of agencies and the count of active employees under each coverage scenario. An agency offering different levels of benefits to different groups of employees will be counted each time for each level that it offers.

	<u>As of June 30, 2009</u>			<u>As of June 30, 2010</u>	
	<u>Contracting Agencies</u>	<u>Covered Active Employees</u>	<u>Agencies amending to different level<sup>2</sup></u>	<u>Contracting Agencies</u>	<u>Covered Active Employees</u>
No Coverage <sup>1</sup>	175	16,901		174	16,386
Level 1 Benefits	43	8,363		43	8,121
Level 2 Benefits	42	4,392		42	4,197
Level 3 Benefits	317	44,572	(3)	312	42,930
Level 4 Benefits	400	75,173	3	408	72,679
Indexed Level Benefits	67	10,707		67	10,543
Total	1,044	160,108		1,046	154,856

1 - This count includes only agencies that have active members. The change in agencies with no coverage from June 30, 2009 to June 30, 2010 is due to one existing agency that adopted Social Security benefits, one agency contracting for 1959 Survivor benefits for the first time, and one agency that became inactive.

2 - This column only reflects agencies moving between 1959 Survivor benefit levels due to contract amendments. This does not include new or existing agencies contracting for 1959 Survivor benefits for the first time.

### **Appendix 3**

#### **1959 Survivor Deaths Per Year**

Displayed on the following page is a year-by-year account of the number of deaths under the program over the past 40 years and the death rate each year since 1980 for public agencies, State, and Schools. The historic covered active counts are not available prior to 1980. Deaths given in the exhibit are on a calendar year basis. Counts represent mid-year active exposure. The historic covered active counts may not match those reported in the prior year's valuation. This is due to the fact that in some cases there is a time gap between a member's death and the determination of which type of death benefit that member will receive.

### Appendix 3 - continued

#### 1959 Survivor Deaths Per Year

Calendar Year	Public Agency			State			School		
	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate
1970	41		*	88		*	14		*
1971	42		*	75		*	10		*
1972	47		*	74		*	12		*
1973	54		*	74		*	14		*
1974	52		*	70		*	7		*
1975	66		*	101		*	10		*
1976	56		*	69		*	6		*
1977	59		*	72		*	22		*
1978	71		*	92		*	17		*
1979	56		*	88		*	7		*
1980	60		*	83		*	7		*
1981	80	54,354	0.15%	71	38,192	0.19%	10	7,843	0.13%
1982	73	56,401	0.13%	78	37,030	0.21%	11	7,987	0.14%
1983	81	59,917	0.14%	67	37,186	0.18%	8	7,685	0.10%
1984	76	65,480	0.12%	63	38,488	0.16%	6	7,104	0.08%
1985	69	66,927	0.10%	79	39,175	0.20%	5	6,842	0.07%
1986	62	68,500	0.09%	44	39,391	0.11%	8	6,500	0.12%
1987	63	69,340	0.09%	51	40,315	0.13%	11	6,200	0.18%
1988	77	84,808	0.09%	49	41,980	0.12%	9	7,100	0.13%
1989	68	82,046	0.08%	59	44,069	0.13%	6	6,899	0.09%
1990	89	86,196	0.10%	63	45,502	0.14%	7	7,942	0.09%
1991	96	91,574	0.10%	40	47,708	0.08%	7	7,752	0.09%
1992	88	95,840	0.09%	43	48,872	0.09%	8	6,823	0.12%
1993	78	97,752	0.08%	54	46,872	0.12%	4	6,776	0.06%
1994	72	98,088	0.07%	58	47,323	0.12%	11	6,653	0.17%
1995	74	99,235	0.07%	52	47,689	0.11%	9	6,751	0.13%
1996	81	100,494	0.08%	54	51,746	0.10%	6	6,726	0.09%
1997	70	102,475	0.07%	62	55,084	0.11%	4	6,794	0.06%
1998	82	112,389	0.07%	60	55,435	0.11%	7	6,956	0.10%
1999	96	118,850	0.08%	61	59,406	0.10%	1	7,444	0.01%
2000	77	121,538	0.06%	56	60,349	0.09%	7	8,338	0.08%
2001	86	116,161	0.07%	59	64,309	0.09%	5	7,884	0.06%
2002	88	129,355	0.07%	51	65,558	0.08%	4	9,195	0.04%
2003	93	129,620	0.07%	67	68,791	0.10%	5	9,390	0.05%
2004	89	131,633	0.07%	61	64,252	0.09%	2	9,325	0.02%
2005	102	133,510	0.08%	63	70,193	0.09%	5	9,402	0.05%
2006	90	137,095	0.07%	66	71,742	0.09%	13	9,469	0.14%
2007	103	140,012	0.07%	66	76,902	0.09%	5	10,131	0.05%
2008	103	144,828	0.07%	48	81,369	0.06%	8	10,550	0.08%
2009	92	143,207	0.06%	57	82,434	0.07%	6	10,562	0.06%

Death counts may change from previous valuations due mainly to reclassification of the benefit that ultimately gets paid to the beneficiary.